



Residential Electrical Services Permit Requirements

Planning Building & Transportation
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CODE SECTIONS

Alameda Municipal Power (AMP) Regulations

CEC Articles 110, 230, 250, 300, 344, 404

CPC 1211

PERMITS & INSPECTIONS

- A permit is required for installation, modification, removal, or replacement of an electrical service.
- Do not cover any portion of the installation until inspected and instructed “*Okay to cover*”.
- Modification of any portion of the existing service requires a complete service upgrade to the current code ([Alameda Municipal Power requirement](#)).

PERMIT APPLICATION REQUIRED DETAILS

- Service size.
- Service entrance conductor size and type.
- Conduit size and type.
- Number of meters with each corresponding disconnect size.
- Panel make and model number.
- **IMPORTANT: the service panel must be selected from the EUSERC compliant list attached.**

PROTECTION OF SERVICE ENTRANCE (SE) CONDUCTORS

SE conductors shall be protected by one of the following methods:

- Main service disconnect appropriately sized to the SE conductors.
- Upgrade SE conductor size as dictated by the number and size of all meter disconnects.

GENERAL REQUIREMENTS CEC & AMP

- Meter locations shall be accessible and outdoors. All electrical meter installations shall be located so as to be accessible to authorized representatives of AMP for installation, removal, reading, testing, and inspection. AMP
- LBs or gutters shall not be installed between the service panel and the weatherhead. AMP
- Conduit Type and Size: Rigid conduit sized per CEC. Min of $\geq 1.25''$ and threaded. CEC 230.50
- The service panel shall be installed $\geq 10''$ from the corner of house to the center of the meter. AMP
- Drip loops are required per CEC 230.54.F.
- The weatherhead shall be installed $\geq 8''$ beyond the edge of the roof. AMP
- Double conduit straps are required at the corner adjacent to the weatherhead. AMP
- A conduit riser clamp must be installed within 3' of all conduit terminations. CEC 344.30
- Conductors shall be $\geq 18''$ proud of the weatherhead. AMP
- The side of the service panel must be $\geq 3'$ from the gas riser. AMP
- Max breaker height is $\leq 6'7''$. CEC 404.8
- Panel circuits must be labeled. CEC 110.22.A
- There shall be no gate between the street and the meter. AMP
- All conduits below grade require duct seal at one or both ends. CEC 300.5.G
- Meter height: 48-66'' or 72-75'' (driveway) from centerline of meter to standing surface. Where the meter location does not meet the min height clearances, protective bollards shall be installed. AMP
- **Working Space:**
 - Meter shall be $\geq 3'$ from the property line. AMP
 - A level standing surface with a clear and unobstructed working space must be provided and maintained in front of each metering installation. The working space must have a width $\geq 30''$ and a height of $\geq 75''$ for individual field-installed meter panels (78'' minimum from standing surface for all other installations).
 - The working space must extend $\geq 36''$ in front of the service panel and be free from all obstructions and vegetation.

RESIDENTIAL SERVICE SIZE REQUIREMENTS AND LIMITATIONS

- **Minimum Service:**
 - Single family = 100 amp.
 - Multi-family = 60 amp (≥ 3 units)
 - Attached & detached ADUs = 100 amps each.
- **Size Limitations:**
 - ≤ 300 amps: no restrictions.
 - 301-399 amps requires AMP approval.
 - ≥ 400 amps requires AMP approval and a homeowner provided transformer.

GROUNDING AND BONDING

- #4 rebar or bare copper UFER (20') or 8' x 5/8" rod with #4 copper. CEC 250.52.3.2
- GEC shall be protected per CEC 250.64.B.
- Ground rod shall be placed as close as practicable to the service. CEC 250.30.A.4
- #6 copper bonding jumper shall be installed at the gas & water piping at the water heater. CPC 1211
- #6 copper cold water bond shall be installed outside & accessible. AMP

SERVICE OVERHEAD CLEARANCES CEC 230.24

- $\geq 8'$ above roofs $< 4:12$ pitch.
- $\geq 3'$ above roofs $\geq 4:12$ pitch.
- $\geq 18''$ at eaves.
- $\geq 18'$ above nonresidential driveway.
- $\geq 10'$ above walkways.
- $\geq 12'$ above driveways.
- $\geq 18'$ above roadway.

EUSERC APPROVED PANELS

EATON Catalog No:

MBE1224B100BTS
MBE1224B125TS
MBE1224PV100BTS
MBE1224PV125BTF
MBE2040B200BTF
MBE2040B200BTS
MBE2040PV200BTS
MBE4040200BTS
MBE48B200BTS
1MP212R

GENERAL ELECTRIC Catalog No:

TSM2020CSCU

SIEMENS Catalog No:

JA4040B1200SECW
MC0816B1200EST
MC1224B1125EFC
MC1224B1125ESC
MC2040B1200ESC
MC2442B1200ESV
MC3040B1200SECW
MC4040B1200SECW

MC4040S1200SC
MM0303L3200EY
WEP2211
WEP3311
WEP4112
WEP4212
WEP4312
WEP6611

SQUARE D Catalog No:

EZM113125
MP22125
MP42200
MP44125
SC1424M125S
SC1624M100F
SC1624M100S
SC1624M125S
SC2040M200C
SC2040M200PF
SC2040M200PS
SC3042M200PS
SC42M200PS

If your EUSERC panel is not listed above then contact Reynaldo Bascara at AMP for approval.
bascara@alamedamp.com

REV	DESCRIPTION	BY	DATE
1	CHANGED METER HEIGHT REQUIREMENTS	C.B.	11/6/03
2	CHANGED SERVICE HEAD HEIGHT & NOTES	LS	7/15/10
3	ADDED NOTE 3 AND NOTE 4	M/LS	4/10/19

PERISCOPE TYPE SERVICE
18"(45.7cm) MINIMUM OR
30"(76.2cm) MAXIMUM HEIGHT
ABOVE ROOF. STEEL CONDUIT,
ELECTRICAL METALLIC TUBING
(EMT) NOT ACCEPTABLE

18"(45.7cm) MAXIMUM BETWEEN
PERISCOPE TYPE SERVICE AND
FRONT OF BUILDING.

ALL THREADED CONDUIT AND
ELBOWS NO CONDULETS, SPLICE,
JUNCTION BOXES AND WIRING GUTTERS
(GENERAL NOTE 3)

RIGID CONDUIT
MIN. SIZE: 1-1/4"
(GENERAL NOTE 2 & NOTE 4)

CORNER OF BUILDING
NEAREST SERVING POLE

EXTEND 8"(20.3cm)
BEYOND EDGE OF ROOF

SERVICE DROP MUST
HOOK/ATTACH TO
CONDUIT

MINIMUM CONDUCTOR
LENGTH 18"(45.7cm)
(GENERAL NOTE 2)

12'(3.6m) MINIMUM HEIGHT
13'(4.0m) MINIMUM HEIGHT
IF OVER DRIVEWAY

48"(121.9cm) MINIMUM
TO

66"(167.6cm) MAXIMUM

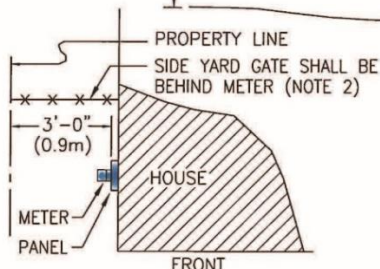
[72"(182.9cm) MINIMUM & 75" MAXIMUM
WHEN INSTALLED NEAR DRIVEWAY]

#6 AWG COPPER GROUND WIRE

CAST BRASS CLAMPS
ARE REQUIRED AT
ALL CONNECTIONS

GROUNDING ROD
8 FT. (2.4m)
INTO THE GROUND
WITH ROD CLAMP.

GROUNDING HUB REQUIRED
IF GROUNDING CONDUCTOR
IS IN METALLIC CONDUIT.



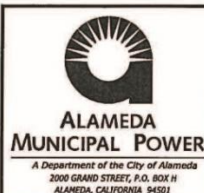
PLAN VIEW

PLAN VIEW NOTES:

1. DISTANCE BETWEEN PROPERTY LINE AND METER PANEL IS 3 FT. (0.9m) MINIMUM.
2. METER SHALL BE LOCATED OUTSIDE OF ANY SIDE YARD GATE.

GENERAL NOTES:

1. #6 AWG BONDING JUMPER REQUIRED BETWEEN INTERNAL GAS PIPING AND WATER PIPING.
2. CONDUCTORS AND RIGID CONDUIT SIZES SHALL BE IN ACCORDANCE WITH APPLICABLE ALAMEDA MUNICIPAL CODE/CALIFORNIA ELECTRICAL CODE.
3. ALL CONDUIT UPSTREAM OF THE ELECTRIC METER SHALL BE THREADED RIGID CONDUIT. NO CONDULETS, SPLICE, JUNCTION BOXES AND WIRING GUTTERS ALLOWED (e.g. C, L, LB, LR, LF, T, TB, X) IF CONDUIT ELBOW ARE USED, THEY SHALL BE THREADED RIGID GALVANIZED CONDUIT.
4. ELECTRIC SERVICE METER PANEL SHALL BE SURFACE MOUNTED, EXCEPTIONS HAVE TO BE APPROVED BY AMP ENGINEERING AND INSPECTED AND APPROVED BY AMP COMPLIANCE INSPECTOR.

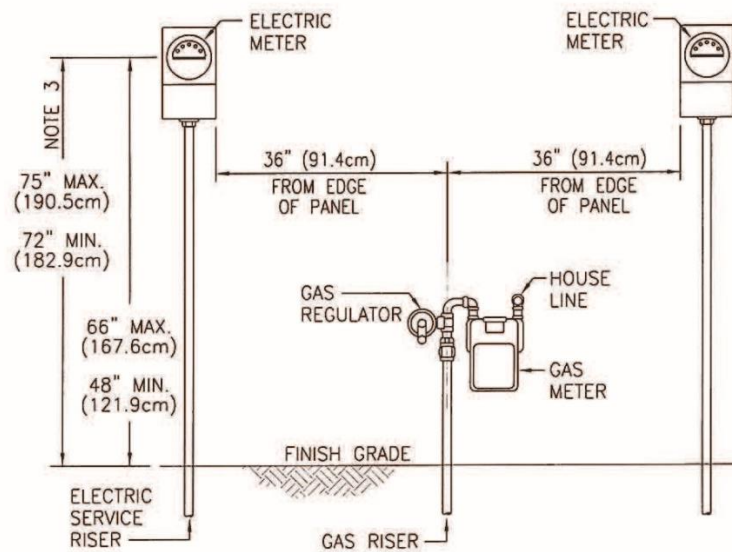


TITLE :

**TYPICAL
OVERHEAD RESIDENTIAL ELECTRIC SERVICE
UP TO 200 AMPERES**

DRAWN :	LVA/RCB	DATE: APRIL 10, 2019	DWG. NO. :	REV.
REVIEWED:			1-L-534	3
APPROVED:			SCALE : NTS	SHT 1 OF 1

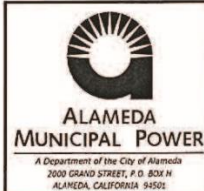
REV	DESCRIPTION	BY	DATE
1	CHANGED CO. NAME	T.N.	11/20/09
2	CHANGED REF. LINE FOR 10' CLEARANCE	L.S.	6/06/12
3	NEW CLEARANCES	J.U.	6/3/15
4	CORNER TWO DIAGRAM DIMENSION REMOVE	J.U.	7/21/15



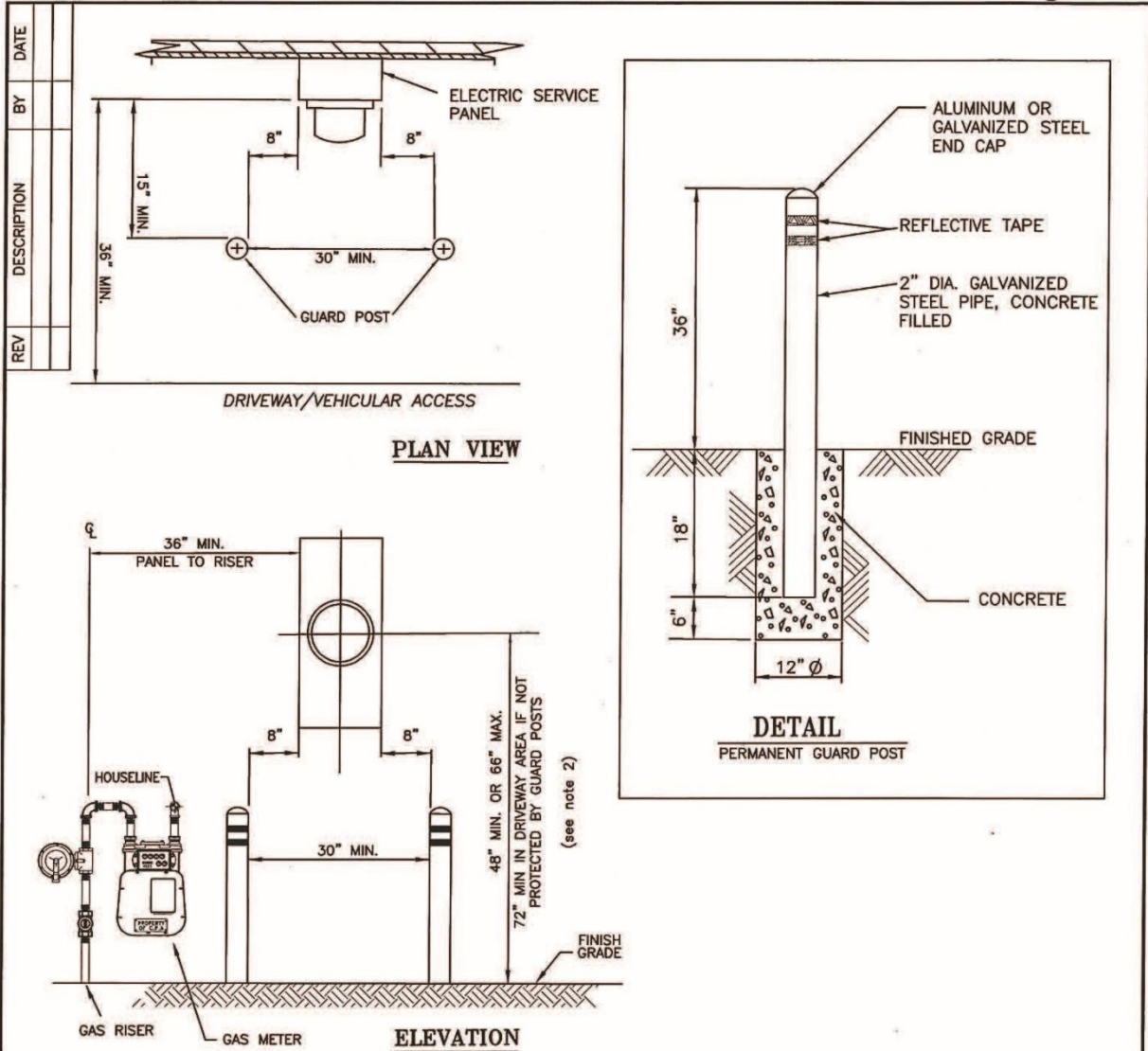
REQUIRED MINIMUM SEPARATIONS AND CLEARANCES BETWEEN ELECTRICAL AND GAS METERS

NOTES:

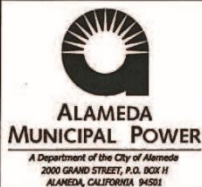
1. ELECTRIC METER PANEL LOCATIONS ARE SUBJECT TO ALAMEDA MUNICIPAL POWER (AMP) APPROVAL AND MUST COMPLY WITH THE ALAMEDA ELECTRICAL CODE REQUIREMENTS.
2. GAS METER LOCATIONS ARE SUBJECT TO GAS UTILITY'S APPROVAL.
3. INDIVIDUAL ELECTRIC METER WHEN INSTALLED NEAR A DRIVEWAY.



TITLE :			
REQUIRED MINIMUM SEPARATIONS AND CLEARANCES BETWEEN ELECTRICAL AND GAS METERS			
DRAWN :	L.V. ANCHETA	DATE: JULY 21, 2015	DWG. NO. :
REVIEWED:	FB		1-L-535
APPROVED:	J.M.		SCALE : NTS SHT 1 OF 1
			REV. 4

**NOTES:**

1. METERS INSTALLED IN LOCATIONS SUSCEPTIBLE TO VEHICULAR DAMAGE SHALL BE PROTECTED BY GUARD POSTS OR INSTALLED AT A SUITABLE HEIGHT TO PREVENT CONTACT.
2. PER CEC ARTICLE 404.8(A), THE HIGHEST POSITION OF THE BREAKER HANDLE MUST NOT BE MORE THAN 79" ABOVE GRADE/FLOOR.
3. THIS STANDARD IS FOR RESIDENTIAL INSTALLATIONS ONLY, NOT FOR MULTIFAMILY DWELLINGS.
4. PERMANENT FIXED POSTS ARE REQUIRED.



TITLE : METER INSTALLATION IN RESIDENTIAL DRIVEWAY				
DRAWN :	L.V. ANCHETA	DATE: NOV. 26, 2018	DWG. NO.:	REV.
REVIEWED:	<i>[Signature]</i>		1-L-624	0
APPROVED:	<i>[Signature]</i>		SCALE: NTS	SHT 1 OF 1